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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/606,918
Filing Date: June 26, 2003
Appellant(s): COOK, FRED S.

Mark L. Mollon
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 7/23/2009 appealing from the Office action mailed 3/16/2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

7,069,337	Rawlins et al.	6-2006
7,299,294	Bruck et al.	11-2007
7,082,102	Wright	7-2006

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Maintained Grounds of Rejection Presented in Final Office Action dated 3/16/2009

Claims 1-7,10-13,and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawlins et al. (7,069,337), hereinafter referred to as Rawlins, in view of Bruck et al. (7,299,294), hereinafter referred to as Bruck.

a. As per claim 1, Rawlins discloses a method comprising the steps of:

interconnecting a plurality of physical processing components within said network for providing a plurality of virtual processing elements that are accessible by respective network traffic paths (Col 6 lines 42-64);

representing a pool of said virtual processing elements using a resource aggregator, each virtual processing element having a capacity allocable according to a

respective communication transfer rate based on a sustainable data flow rate to complete respective data processing transactions (Col 8 line 58 through Col 9 line 7, Col 10 lines 12-34);

receiving a reservation request for utilizing specified processing resources (Col 8 line 58 through Col 9 line 7);

said resource aggregator exclusively reserving at least one virtual processing element for providing capacity to satisfy said reservation request in response to said respective communication transfer rate (Col 9 line 44 through Col 10 line 34); and

allocating use of a respective network traffic path to service said reservation request in response to said identified virtual processing element (Col 9 line 44 through Col 10 line 34). However, Rawlins fails to explicitly disclose wherein the plurality of virtual processing elements that are accessible by respective network traffic paths perform a respective data processing operation on user-supplied data.

Bruck teaches wherein the plurality of virtual processing elements that are accessible by respective network traffic paths perform a respective data processing operation on user-supplied data (Abstract, Col 4 lines 16-45, Col 5 line 48 through Col 6 line 20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of virtual processing elements performing data processing operations on user-supplied data with the prior art of Rawlins. One of ordinary skill in the art would have done so for the purpose of providing functions such as a web file server, FTP server, or application server, as well as providing dynamic

reconfiguration processing for virtual pools of resources (Col 4 lines 16-45, Col 6 lines 5-20).

b. As per claim 2, Rawlins discloses wherein said plurality of virtual processing elements includes multiple component types for performing respective processing operations (Col 6 lines 56-64, Col 9 lines 44-63, Col 12 lines 46-63).

c. As per claim 3, Rawlins discloses wherein said pool includes composite resource sets combining said respective processing operations to implement a predetermined composite service, each composite resource set being comprised of a plurality of said multiple component types (Figure 6, Col 11 lines 13-54).

d. As per claim 4, Rawlins discloses wherein said respective processing operations within a composite resource set are characterized by predetermined interactions for integrating said processing operations into a service function (Col 9 lines 44-63).

e. As per claim 5, Rawlins discloses wherein said processing operations include a data manipulation function and a storage function (Col 10 lines 12-34, Col 12 lines 46 through Col 13 line 16, Col 16 lines 1-32).

f. As per claim 6, Rawlins discloses wherein each of said composite resource sets further comprises at least one transport link within said network for connecting said multiple component types (Figure 3, Col 7 line 44 through Col 8 line 11).

g. As per claim 7, Rawlins discloses wherein said network is comprised of an IP network and wherein said step of allocating use of a respective network traffic path is

comprised of sending an IP message in a bandwidth reservation request (Col 8 line 58 through Col 9 line 7).

h. As per claim 10, Rawlins discloses a method comprising:

a plurality of physical processing components advertising to an aggregator their respective virtual processing components according to a plurality of component types for performing respective processing operations and advertising respective capacities of said virtual processing components, wherein said virtual processing components are addressable within said network as respective virtual network elements (Col 6 lines 42-64, Col 8 line 58 through Col 9 line 7, Col 10 lines 12-34);

said aggregator constructing a plurality of service resource sets from said virtual processing components according to a service type, each service resource set comprised of a combination of said virtual network elements (Col 8 line 58 through Col 9 line 7, Col 10 lines 12-34);

said aggregator receiving a reservation request from a remote user for utilizing resources according to said service type (Col 8 line 58 through Col 9 line 7);

said aggregator allocating a selected service resource set for fulfilling said reservation request (Col 9 line 44 through Col 10 line 34); and

said aggregator identifying said selected service resource set to said remote user (Col 3 lines 7-32). However, Rawlins fails to explicitly disclose wherein the plurality of virtual processing elements that are accessible by respective network traffic paths perform a respective data processing operation on user-supplied data.

Bruck teaches wherein the plurality of virtual processing elements that are accessible by respective network traffic paths perform a respective data processing operation on user-supplied data (Abstract, Col 4 lines 16-45, Col 5 line 48 through Col 6 line 20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of virtual processing elements performing data processing operations on user-supplied data with the prior art of Rawlins. One of ordinary skill in the art would have done so for the purpose of providing functions such as a web file server, FTP server, or application server, as well as providing dynamic reconfiguration processing for virtual pools of resources (Col 4 lines 16-45, Col 6 lines 5-20).

i. As per claim 11, Rawlins discloses wherein said processing operations include a data manipulation function and a storage function (Col 10 lines 12-34, Col 12 lines 46 through Col 13 line 16, Col 16 lines 1-32).

j. As per claim 12, Rawlins discloses wherein each of said composite resource sets further comprises at least one transport link within said network for connecting said multiple component types (Figure 3, Col 7 line 44 through Col 8 line 11).

k. As per claim 13, Rawlins discloses wherein said network is comprised of an IP network and wherein said step of allocating use of a respective network traffic path is comprised of sending an IP message in a bandwidth reservation request (Col 8 line 58 through Col 9 line 7).

I. As per claim 16, Rawlins discloses an apparatus for providing a data processing service comprising:

a network including a plurality of transport links (Figure 3, Col 7 line 44 through Col 8 line 11);

a plurality of physical processing components connected within said network for advertising a plurality of virtual processing elements that are accessible by respective network traffic paths to perform respective processing operations, each virtual processing element having a capacity allocable according to a respective communication transfer rate based on a sustainable data flow to complete respective data processing transactions (Col 6 lines 42-64, Col 8 line 58 through Col 9 line 7, Col 10 lines 12-34);

a resource aggregator connected within said network for representing a pool of said advertised virtual processing elements, receiving a reservation request for utilizing specified processing resources, exclusively reserving at least one virtual processing element for providing capacity to satisfy said reservation request in response to said respective communication transfer rate, and allocating use of a respective network traffic path to service said reservation request in response to said identified virtual processing element (Col 3 lines 7-32, Col 8 line 58 through Col 9 line 7, Col 10 lines 12-34). However, Rawlins fails to explicitly disclose wherein the plurality of virtual processing elements that are accessible by respective network traffic paths perform a respective data processing operation on user-supplied data.

Bruck teaches wherein the plurality of virtual processing elements that are accessible by respective network traffic paths perform a respective data processing operation on user-supplied data (Abstract, Col 4 lines 16-45, Col 5 line 48 through Col 6 line 20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of virtual processing elements performing data processing operations on user-supplied data with the prior art of Rawlins. One of ordinary skill in the art would have done so for the purpose of providing functions such as a web file server, FTP server, or application server, as well as providing dynamic reconfiguration processing for virtual pools of resources (Col 4 lines 16-45, Col 6 lines 5-20).

m. As per claim 17, Rawlins discloses an apparatus comprising:

a network including a plurality of transport links (Figure 3, Col 7 line 44 through Col 8 line 11);

a plurality of physical processing components connected within said network for advertising a plurality of virtual processing components according to a plurality of component types for performing respective processing operations and advertising respective capacities of said virtual processing components, wherein said virtual processing components are addressable within said network as respective virtual network elements (Col 6 lines 42-64, Col 8 line 58 through Col 9 line 7, Col 10 lines 12-34); and

and aggregator for constructing a plurality of service resource sets from said virtual processing components according to a service type, each service resource

set comprised of a combination of said virtual network elements (Col 8 line 58 through Col 9 line 7, Col 10 lines 12-34), receiving a reservation request from a remote user for utilizing resources according to said service type (Col 8 line 58 through Col 9 line 7), allocating a selected service resource set for fulfilling said reservation request (Col 9 line 44 through Col 10 line 34), and identifying said selected service resource set to said remote user (Col 3 lines 7-32). However, Rawlins fails to explicitly disclose wherein the plurality of virtual processing elements that are accessible by respective network traffic paths perform a respective data processing operation on user-supplied data.

Bruck teaches wherein the plurality of virtual processing elements that are accessible by respective network traffic paths perform a respective data processing operation on user-supplied data (Abstract, Col 4 lines 16-45, Col 5 line 48 through Col 6 line 20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of virtual processing elements performing data processing operations on user-supplied data with the prior art of Rawlins. One of ordinary skill in the art would have done so for the purpose of providing functions such as a web file server, FTP server, or application server, as well as providing dynamic reconfiguration processing for virtual pools of resources (Col 4 lines 16-45, Col 6 lines 5-20).

n. As per claim 18, Rawlins discloses wherein said processing operations include a data manipulation function and a storage function (Col 10 lines 12-34, Col 12 lines 46 through Col 13 line 16, Col 16 lines 1-32).

o. As per claim 19, Rawlins discloses wherein each of said composite resource sets further comprises at least one transport link within said network for connecting said multiple component types (Figure 3, Col 7 line 44 through Col 8 line 11).

p. As per claim 20, Rawlins discloses wherein said network is comprised of an IP network and wherein said step of allocating use of a respective network traffic path is comprised of sending an IP message in a bandwidth reservation request (Col 8 line 58 through Col 9 line 7).

Claims 8-9,14-15,and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawlins and Bruck in view of Wright (7,082,102).

a. As per claims 8,14,and 21, Rawlins and Bruck teach the invention substantially as claimed above. Additionally, Rawlins discloses the use of an IP network (Fig. 4, Col 7 lines 1-11), however Rawlins fails to explicitly disclose the use of label-switched paths.

Wright discloses wherein network traffic paths are comprised of label-switched paths (Col 2 lines 12-19, Col 3 line 34 through Col 4 line 16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of label-switch paths with policy-based service class routing systems. One of ordinary skill in the art would have been motivated to do so for the purpose of providing communications across a MPLS environment (Col 2 lines 12-19).

b. As per claims 9,15,and 22, Rawlins and Bruck teach the invention substantially as claimed above. However, Rawlins fails to explicitly teach the use of an ATM network wherein said network traffic paths are comprised of ATM virtual paths.

Wright discloses the use of an ATM network wherein network traffic paths are comprised of label switched paths (Col 3 lines 34-44 and 61-63). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of an ATM network and virtual paths with policy-based service class routing systems. One of ordinary skill in the art would have done so for the purpose of providing legacy network support which is capable of performing label lookup and replacement (Col 3 lines 34-44 and 61-63).

(10) Response to Argument

(1) As per group 1, Appellant's arguments relate to limitations found in claims 1-7, 10-13, and 16-20.

Regarding independent claims 1, 10, 16, and 17, Appellant argued in substance:

(A) Appellant argued that the prior art of Rawlins fails to disclose virtual processing elements having a respective data processing operation and being accessible by a respective network path to perform a respective data processing operation on user-supplied data

(B) Appellant argued that the prior art of Bruck fails to teach a plurality of virtual processing elements that are accessible by respective network traffic paths to perform a respective data processing operation on user-supplied data.

As to point (A), regarding Appellant's arguments directed to the prior art of Rawlins failing to disclose virtual processing elements having a respective data processing operation and being accessible by a respective network path, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The Examiner notes that the prior art of Bruck was relied upon for the Appellant argued limitation of "*wherein the plurality of virtual processing elements that are accessible by respective network traffic paths perform a respective data processing operation on user-supplied data*", not the cited prior art of Rawlins.

Regarding Appellant's argument that the prior art of Rawlins fails to disclose the router performing any operations on user-supplied data, while the prior art of Rawlins was not relied upon for disclosing any such limitation, the prior art of Rawlins at least discloses packet classification and packet marking with the appropriate DSCP of the aggregate Diffserv class at the router (e.g., Col. 10 lines 35-64). Further, regarding Appellant's argument that "*The router does not perform any operations on user-supplied data (i.e., the data payload within the packet)*", no such claim limitation directed to operating on the data payload within the packet is found in independent claim 1.

Appellant further argued that the prior art of Rawlins is merely directed to performing network traffic control functions and as such there is no suggestion of pooling virtual processing elements which are allocable based on the data flow rate that is used by the data processing function of the virtual element. However, with respect to instant claim language, Rawlins explicitly discloses representing a pool of virtual processing elements, each processing element having a capacity allocable according to a respective communication transfer rate based on a sustainable data flow rate, and allocating use of a respective network traffic path to service a reservation request in response to an identified virtual processing element (e.g., at Col. 8 line 58 through Col. 9 line 7 and Col. 10 lines 12-34).

As to point (B), Appellant argued that the prior art of Bruck teaches a gateway function that can be distributed to other servers with other operational features but fails to teach any interaction between such functions. Bruck teaches a distributed traffic controller for network data which incorporates a fault-tolerant virtual pool of machines which provide for dynamic reconfiguration of traffic paths utilizing virtual IP pools (e.g., at Col. 6 lines 5-20 and 31-43, Col. 26 lines 7-24). Each machine executes the distributed gateway software, as well as being capable of performing operational functions such as a web server, e-mail server, or encryption services during execution of the distributed gateway software (Col. 6 lines 5-20). Further, Appellant's argument is unclear as to what interaction between functions is required by the instant claim language.

Regarding dependent claim 2, Appellant argued in substance:

(C) The prior art of Rawlins fails to disclose even one data processing operation and as such fails to disclose multiple component types for respective data processing operations.

As to point (C), Appellant's arguments with respect to the prior art of Rawlins failing to disclose at least one data processing operation are addressed at point (A) above. Nevertheless, Rawlins discloses the claimed multiple component types as shown at Figure 4 and further discussed at Col. 7 lines 44-60 and Col. 10 lines 12-34 (e.g., ER-TX edge routers, BR-TX boundary routers and their associated processing operations).

Regarding dependent claim 3, Appellant argued in substance:

(D) The prior art rejection of dependent claim 3 fails to conform to the explanation required by KSR of a valid reason for concluding that combining respective data processing operations to implement a predetermined composite service would have been obvious.

As to point (D), The Examiner notes that the prior art of Rawlins was cited as disclosing the limitations of dependent claim 3. Accordingly, no modification to the primary reference would be required as the argued limitations of dependent claim 3

were cited as being disclosed by the prior art primary reference of Rawlins in the Final Office Action dated 3/16/2009. Rawlins discloses multiple component types as shown at point (C) above. Nevertheless, Rawlins discloses the limitations of dependent claim 3 as cited at Col. 11 lines 13-54, which describe the composite DiffServ/IntServ implementation across multiple component types for use within virtual pools.

Regarding dependent claim 6, Appellant argued in substance:

(E) The prior art of Rawlins fails to disclose a transport link that connects multiple component types.

As to point (E), Appellant's argument with respect to the prior art of Rawlins failing to disclose multiple component types is addressed at point (C) above. Additionally, Figure 4 of Rawlins clearly shows transport links connecting said component types.

Regarding Appellant's arguments with respect to independent claims 10, 16, and 17, Appellant's arguments point back to arguments made with respect to independent claim 1 which are addressed above.

(2) As per group 2, Appellant's arguments relate to limitations found in claims 8, 9, 14, 15, 21, and 22.

Regarding Appellant's arguments with respect to dependent claims 8, 9, 14, 15, 21, and 22, Appellant points back to arguments addressed at points A-E above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Grant Ford/

Examiner, Art Unit 2442

/Andrew Caldwell/
Supervisory Patent Examiner, Art Unit 2442

Conferees:

/Andrew Caldwell/
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